1916

Biological Station Summer Session, 1916

State University of Montana (Missoula, Mont.)

Flathead Lake Biological Station

UNIVERSITY OF MONTANA BULLETIN

WHOLE NO. 120. CIRCULAR NO. 62.
SUPPLEMENT

STATE UNIVERSITY

COLLEGE OF LIBERAL ARTS
AND SCIENCES

SCHOOLS OF LAW, PHARMACY, FORESTRY,
JOURNALISM AND MUSIC

Site of the Station

University of Montana Biological Station

Yellow Bay

Flathead Lake, Montana

JUNE 19 TO AUGUST 18, 1916

MARCH, 1916

Entered at Missoula, Montana, as second-class matter, under Act of Congress, August 24, 1912.

The University of Montana

The University of Montana is constituted under the provisions of Chapter 92 of the Laws of the Thirteenth Legislative Assembly, March 14, 1913 (effective July 1, 1913).

The general control and supervision of the University is vested in the State Board of Education. The Chancellor of the University is the chief executive officer. For each of the component institutions there is a local executive board.

MONTANA STATE BOARD OF EDUCATION

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EDWARD C. ELLIOTT, Chancellor of the University

The University comprises the following institutions, schools and departments:

THE STATE UNIVERSITY at Missoula.

Established February 17, 1893, and consisting of:

The College of Arts and Sciences,
The School of Law,
The School of Pharmacy,
The School of Forestry,
The School of Journalism,
The School of Music,
The Summer Session,
The Biological Station, (Flathead Lake)
The Extension Service,
The Graduate Department.

FREDERICK C. SCHEUCH, Acting President.

THE STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS at Bozeman.

Established February 16, 1893, and consisting of:

The College of Agriculture,
The College of Engineering,
The College of Applied Science,
The College of Industrial Arts,
The School of Home Economics,
The School of Mechanic Arts,
The School of Agriculture,
The School of Art,
The Secretarial Course,
The School of Music,
The Summer Session,
The Agricultural Experiment Station,
The Agricultural Extension Service.

JAMES M. HAMILTON, President.

THE STATE SCHOOL OF MINES at Butte.

Established February 17, 1893.

CHARLES H. BOWMAN, President.

THE STATE NORMAL COLLEGE at Dillon.

Established February 23, 1893, and consisting of:

The Two-year Elementary Course,
The Three-year Course,
The Four-year Course,
The Graduate Course.

JOSEPH E. MONROE, President.

For publications and detailed information concerning the different schools and colleges, address the President of the particular institution concerned. Communications intended for the Chancellor of the University should be addressed to the State Capitol, Helena, Montana.

University of Montana Biological Station

OUTLINE FOR SEASON 1916.

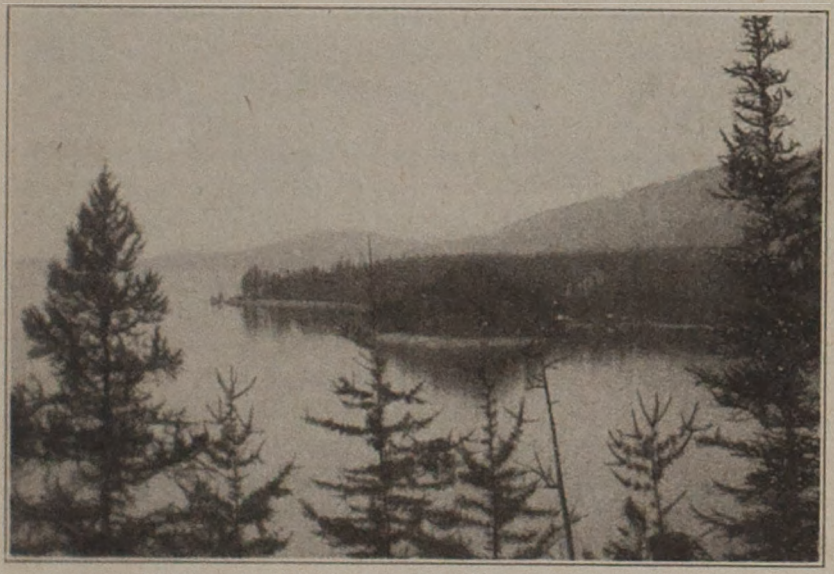
PROFESSOR ELROD; ASSISTANT PROFESSOR BRAY.

Additional Instructors to be announced later.

A station for instruction and research in Biology will be maintained for the sixteenth session, by the State University as a part of its regular Summer Session, during the nine weeks from June 19 to August 18.

Location.

The station is located at Yellow Bay on Flathead Lake. Here the University owns eighty-seven acres, with nearly a mile and a half of shore line. The distance from Somers, the terminus of the Great Northern railroad, is about twenty miles; from



Yellow Bay Point in Middle, with Building on Right

Bigfork at the upper end of the lake, seventeen miles; and from Polson, at the lower end of the lake, about sixteen miles. Connection is made from these places by boat. An automobile road is completed along the shore.

The region is a virgin forest. The Mission Mountains rise abruptly from Flathead Lake on the east, reaching an elevation

of almost 8,500 feet near the station, or a mile in vertical distance above the water. These mountains present a variety of collecting fields, from the dense woods at the lake to alpine vegetation and talus meadows. A trail has been blazed to one of the summits. By boat, it is possible to reach in a short time the swampy delta of Flathead River, where it enters the lake, the swamp at the southern end of the lake, prairie country in several locations, and numerous islands. The lake itself covers more than three hundred and fifty square miles and is three hundred feet deep.

The topography near the station is such as to afford a variety of floral and faunal conditions. From the deep lake to high mountain-top is an extreme which few places can present. From virgin prairie to virgin forest the distance is but a few miles.

Buildings and Equipment.

The station building is a two-story brick structure, thirty by forty feet, with a cement floor below and rooms for investigators and others on the second floor. There is a dark room for photography. It is situated in a beautiful grove of native yellow-pine and tamarack. A mountain stream furnishes an abundance of pure water.

The station has a splendid motor boat capable of carrying fifteen people. There is a smaller boat, sixteen feet long, with a gasoline engine, and two rowboats.

Plan of Work.

It is not the purpose of the station to duplicate the work offered at the University, but to provide facilities for field work of a kind that cannot be well carried on with limited hours for a schedule. Each person may select the study he wishes to pursue, and give to it all or a portion of his time. Instruction will be limited to certain courses for beginners, but qualified students may elect special work and pursue any line of investigation or study they desire. Provision will be made for both elementary and advanced study in Botany and Zoology in its various fields. Credit for equivalent university work will be given to those requesting it.

Registration.

The number to be accommodated is limited. There is a limited number of tents, and there are no boarding places near. Hence, immediate registration is necessary to insure admission and accommodations.

Fees and Expenses.

Students will pay the regular summer session fee of ten dollars for the nine weeks. A charge of five dollars is made for the use of the scientific equipment and the boats. A further charge of five dollars for the season is made to each person occupying a tent. These charges are not increased, no matter how long the person may stay. Board at the camp mess is provided at six dollars per week.

The New Automobile Road Through the Woods

Courses

Elementary Zoology.

Lectures, accompanied by suitable laboratory exercises and field work, intended for students who have had no previous training in Zoology.

General Ecology.

A study of the animals found in the region, including their collection, classification, distribution and habits. Field work with lectures and photographic records of ecological phenomena.

Ornithology.

A study of the birds of the region, their classification, modes of identification, nesting habits, songs, distribution, with methods of preserving skins for future study.

Entomology.

Lectures, book references and field work. Attention will be given to forest insects.

Plankton.

A systematic and ecological study of the organisms of Flathead Lake.

Research.

Advanced students wishing to engage in research work in Botany or Zoology will be given problems for investigation, to be conducted under the direction of the several members of the staff.

Nature Study.

While no definite courses will be outlined, help and instruction in collecting and preparing material for use in any grade of work will be given.

Photography.

Help and instruction will be given in the use of both plates and films, in exposing, developing and printing. Students will furnish their own cameras, plates or films, and paper.

Physiography.

Mountain formation and erosion, glacial action, river deposit, lake beaches, stream erosion, and many other phenomena, may be illustrated and studied in the region about the station. Lectures and field work.

Elementary Botany.

Lectures and field work. No prerequisite.

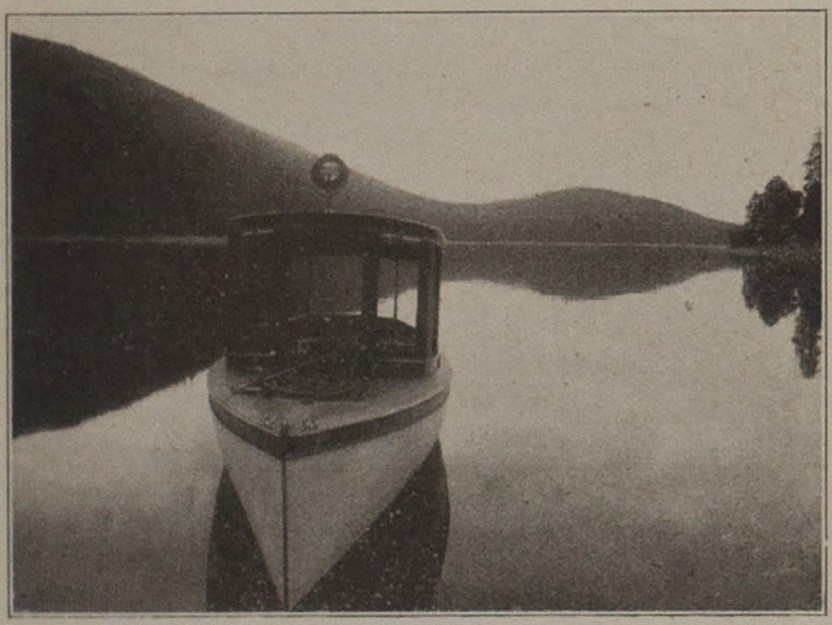
Forest Botany.

Identification of trees and shrubs, a study of the forest floor in its various aspects, distribution with respect to both moisture and altitude, the succession of timber growths, parasitic and other forest enemies. Lectures and field work.

Excursions.

Frequent excursions to various parts of the lake and to the mountains will be made. Such trips will be to points of scientific and scenic interest. Excursions to nearby places by boats or on foot will be of almost daily occurrence. Camping trips will be arranged during which informal instruction in camping and woodcraft will be given.

All-day excursions at each week-end to places of interest, some of which are as follows: To the big swamp; to Wild Horse Island, 1,200 feet above the lake, glaciated over entire summit; to Daphnia pond, made by glaciation; to the delta of Flathead River; to the falls and rapids at the outlet of the lake; to the big sawmill at Somers; to sub-alpine and alpine mountain heights. This season an attempt will be made for an excursion to MacDougal peak, Swan Range, distant about 30 miles, north, a magnificent mountain panorama of scenery, and to McDonald



The Station Launch in the Bay

lake and mountain in the Mission Range, wonderful mountain scenery, distant about 30 miles, south. A trip to Glacier Park, when the Station closes, is possible for all those who desire it.

Lectures.

Popular evening lectures will be presented in the laboratory. There will be two or more each week, given by members of the staff and others who may be invited.

Recreation.

Boating, fishing, swimming, forest rambling, and mountain climbing may be indulged in to the heart's content. The location of the station is in the midst of a mountain and forest wilderness, extending for miles. It is possible to combine with study the pleasure of a summer outing.

How to Reach the Station.

Those coming over the Northern Pacific railroad should get off at Ravalli. Daily automobile stage runs to Polson, thirty-five miles. Boats will carry passengers to the station. Those coming over the Great Northern railroad will change at Columbia Falls. A branch line, with connections with all trains, runs to Kalispell and Somers, the latter on Flathead Lake. Steamers will carry passengers to the station.

Mail during the summer may be addressed to Polson, which has daily service. The station boat and other boats carry the mail to and from the station, several times a week.

Further information and suggestions about railroad tickets and prices will be given on application. Address Morton J. Elrod, Director, Missoula, Montana. After June 15 and until August 20th the address will be Polson, Mont.

The Beach at the Station